

1 CLAIMS

2 What is claimed is:

3 1. A method comprising:
4 in a storage medium, storing one or more diagnostic modules comprising
5 machine-readable instructions for performing one or more diagnostic procedures of a
6 processing system;
7 hosting an operating system capable of addressing the storage medium,
8 wherein the operating system is capable of initiating execution of the one or more
9 diagnostic procedures through a firmware interface.

10
11 2. The method of claim 1, the method further comprising storing the one or more
12 diagnostic modules in a physically addressable area of a system memory, wherein the
13 operating system is prevented from remapping the machine readable instructions for
14 performing the one or more diagnostic procedures in the system memory.

15 3. The method of claim 1, wherein the one or more diagnostic modules comprise
16 run-time drivers executable through the firmware interface.

17 4. The method of claim 1, wherein the diagnostic procedures comprise diagnostic
18 procedures for testing one or more peripheral devices of the processing system.
19
20
21

pub A1

0070700 110700 5028025 09708205

5. The method of claim 1, the method further comprising:
loading the one or more diagnostic modules to a first physically addressable area
of a system memory; and
loading the operating system to a second physically addressable area of memory
from a non-volatile memory device.

6. The method of claim 5, the method further comprising loading the one or more
diagnostic modules to the physically addressable area of the system memory from a basic
input/output system (BIOS).

7. The method of claim 1, the method further comprising:
maintaining pointers in the firmware interface to the diagnostic modules at an
addressable portion of the storage medium;
detecting a change in virtual addressing by the operating system; and
converting pointers in the firmware interface in response to the change in virtual
addressing.

8. An apparatus comprising:
a processor;
a memory to store data;
logic to store in the memory one or more diagnostic modules comprising
machine-readable instructions for performing one or more diagnostic procedures of a
processing system; and
an operating system capable of initiating execution of the one or more diagnostic
procedures on the processor through a firmware interface.

9. The apparatus of claim 8, the apparatus further comprising logic to store the one
or more diagnostic modules in a physically addressable area of the memory, wherein the
operating system is prevented from remapping the machine readable instructions for
performing the one or more diagnostic procedures in the memory.

pub A1

10. The apparatus of claim 8, wherein the one or more diagnostic modules comprise
run-time drivers executable through the firmware interface.

2 11. The apparatus of claim 8, wherein the diagnostic procedures comprise diagnostic
3 procedures for testing one or more peripheral devices of the processing system.

4
5 12. The apparatus of claim 8, the apparatus further comprising:
6 logic to load the one or more diagnostic modules to a first physically addressable
7 area of a system memory; and
8 logic to load the operating system to a second physically addressable area of the
9 system memory from a non-volatile memory device.

10
11 13. The apparatus of claim 12, the apparatus further comprising a basic input/output
12 system (BIOS) comprising logic to load the one or more diagnostic modules to the first
13 physically addressable area of the system memory.

14
15 14. The apparatus of 8, the apparatus further comprising:
16 logic to maintain pointers in the firmware interface to the diagnostic modules at an
17 addressable portion of the storage medium;
18 logic to detect a change in virtual addressing by the operating system; and
19 logic to convert pointers in the firmware interface in response to the change in
20 virtual addressing.

21
22 15. A circuit for initiating a boot sequence for a processing system, the circuit
23 comprising:
24 logic to store in a storage medium one or more diagnostic modules comprising
25 machine-readable instructions for performing one or more diagnostic procedures of a
26 processing system;
27 logic to initiate an operating system capable of addressing the storage medium,
28 wherein the operating system is capable of initiating execution of the one or more
29 diagnostic procedures through a firmware interface.

30
31 16. The circuit of claim 15, wherein the circuit comprises a basic input/output system
32 (BIOS) adapted to integrate with the processing system.
33

1 17. The circuit of claim 15, the circuit further comprising logic to store the one or
2 more diagnostic modules in a physically addressable area of the storage medium, wherein
3 the operating system is prevented from remapping the machine readable instructions for
4 performing the one or more diagnostic procedures in the storage medium.

5
6 18. The circuit of claim 15, wherein the one or more diagnostic modules comprise
7 run-time drivers executable through the firmware interface.

8
9 19. The circuit of claim 15, wherein the diagnostic procedures comprise diagnostic
10 procedures for testing one or more peripheral devices of the processing system.

11
12 20. The circuit of claim 15, the circuit further comprising:
13 logic to load the one or more diagnostic modules to a first physically addressable
14 area of a system memory; and
15 logic to load the operating system to a second physically addressable area of the
16 system memory from a non-volatile memory device.

17
18 21. The circuit of claim 20, the circuit further comprising a basic input/output system
19 (BIOS) comprising logic to load the one or more diagnostic modules to the first
20 physically addressable area of the system memory.

21
22 22. The circuit of claim 15, the circuit further comprising:
23 logic to maintain pointers in the firmware interface to the diagnostic modules at an
24 addressable portion of the storage medium;
25 logic to detect a change in virtual addressing by the operating system; and
26 logic to convert pointers in the firmware interface in response to the change in
27 virtual addressing.

28
29 23. An article comprising:
30 a storage medium comprising machine-readable instructions stored thereon for:
31 initiating storage of machine-readable instructions for performing one or
32 more diagnostic procedures of a processing system in a first physical area of a
33 memory; and

Sub A1 →

initiating storage of machine-readable instructions for executing an operating system for the processing system in a second physical area of the memory, wherein the operating system is capable of initiating execution of the one or more diagnostic procedures through a firmware interface.

24. The article of claim 23, wherein the storage medium further comprising machine-readable instructions stored thereon for storing the one or more diagnostic modules in a physically addressable area of a system memory, wherein the operating system is prevented from remapping the machine readable instructions for performing the one or more diagnostic procedures in the system memory.

25. The article of claim 23, wherein the one or more diagnostic modules comprise run-time drivers executable through the firmware interface.

26. The article of claim 23, wherein the diagnostic procedures comprise diagnostic procedures for testing one or more peripheral devices of the processing system.

27. The article of claim 23, wherein the storage medium further comprises machine readable instructions stored thereon for:
loading the one or more diagnostic modules to a first physically addressable area of a system memory; and
loading the operating system to a second physically addressable area of memory from a non-volatile memory device.

Sub A2 →

28. The article of claim 23, wherein the storage medium further comprises machine readable instructions stored thereon for loading the one or more diagnostic modules to the physically addressable area of the system memory from a basic input/output system (BIOS).

29. The article of claim 23, wherein the storage medium further comprises machine-readable instructions stored thereon for:

Pub AI

- 2 maintaining pointers in the firmware interface to the diagnostic modules at an
- 3 addressable portion of the storage medium;
- 4 detecting a change in virtual addressing by the operating system; and
- 5 converting pointers in the firmware interface in response to the change in virtual
- addressing.

09708205-110700